

10-04-06

1624



PTO/SB/21 (07-06)

Approved for use through 09/30/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/567,009-Conf. #9901	
	Filing Date	January 30, 2006	
	First Named Inventor	Serguei Sviridov	
	Art Unit	1624	
	Examiner Name	Not Yet Assigned	
Total Number of Pages in This Submission	10	Attorney Docket Number	17243/006001

## ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form  <input type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment/Reply  <input type="checkbox"/> After Final  <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Reply to Missing Parts/Incomplete Application  <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition  <input type="checkbox"/> Petition to Convert to a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Request For Corrected Filing Receipt with attachments (8 pages) Certificate of Mailing (1 page) Return Receipt Postcard
Remarks		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	OSHA · LIANG LLP		
Signature			
Printed name	T. Chyau Liang, Ph.D.		
Date	October 3, 2006	Reg. No.	48,885



Docket No.: 17243/006001  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Serguei Sviridov et al.

Application No.: 10/567,009

Confirmation No.: 9901

Filed: January 30, 2006

Art Unit: 1624

For: PIPERAZINE DERIVATIVES AND THEIR  
USE AS THERAPEUTIC AGENTS

Examiner: Not Yet Assigned

**REQUEST FOR CORRECTED FILING RECEIPT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicants hereby request that a corrected Filing Receipt be issued in the above-identified patent application. The official Filing Receipt received by Applicant, a copy of which is attached hereto, has a misspelling in the city of residence of the third inventor, and a typographical error in the sixth Applicant's name. Applicants respectfully request that the third inventor's city of residence be corrected from "Fort Coquitlam" to --Port Coquitlam-- and that the sixth Applicant's name be corrected from "Heins W. Gschwend" to --Heinz W. Gschwend-- as shown in the enclosed copies of:

1) the first page of the PCT application which shows the correct spelling of the third applicant's city of residence and the sixth applicant's name;

2) the second and third page of the application data sheet which shows the correct spelling of the third applicant's city of residence and the sixth applicant's name.

Applicants additionally request that all pertinent U.S. Patent and Trademark Office records relating to the subject application be changed to reflect these corrections.

Applicants believe no fee is due with this request. However, if a fee is due, please charge our Deposit Account No. 50-0591, under Order No. 17243/006001.

Dated: October 3, 2006

Respectfully submitted,

By 

T. Chyau Liang, Ph.D.  
Registration No.: 48,885  
OSHA · LIANG LLP  
1221 McKinney St., Suite 2800  
Houston, Texas 77010  
(713) 228-8600  
(713) 228-8778 (Fax)

AUG 03 2006



## UNITED STATES PATENT AND TRADEMARK OFFICE

OSHA • LIANG LLP

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/567,009	01/30/2006	1624	3460	17243/006001		51	5

22511  
 OSHA LIANG L.L.P.  
 1221 MCKINNEY STREET  
 SUITE 2800  
 HOUSTON, TX 77010



CONFIRMATION NO. 9901

## FILING RECEIPT



\*OC000000019848859\*

Date Mailed: 08/02/2006

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Serguei Sviridov, Burnaby, CANADA;  
 Vishnumurthy Kodumuru, Burnaby, CANADA;  
 Shifeng Liu, Fort Coquitlam, CANADA;  
 Melwyn Abreo, Jamul, CA;  
 Michael D. Winther, Vancouver, CANADA;  
 Heins W. Gschwend, Santa Rosa, CA;  
 Rajender Kamboj, Burnaby, BC, CANADA;  
 Shaoyi Sun, Vancouver, BC, CANADA;  
 Mark W. Holladay, San Diego, CANADA;  
 Wenbao Li, San Diego, CA;  
 Chi Tu, San Diego, CA;

Docketed Action:	
<input checked="" type="checkbox"/> New	<input type="checkbox"/> Previously <input type="checkbox"/> Non Required
Docket Number:	17243/006001
Attorney Initials:	TCL
Docketing Initials:	DS

## Assignment For Published Patent Application

XENON PHARMACEUTICALS INC., Burnaby, CANADA

Power of Attorney: The patent practitioners associated with Customer Number 22511.

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/US04/24658 07/29/2004  
 which claims benefit of 60/491,095 07/30/2003

## Foreign Applications

If Required, Foreign Filing License Granted: 08/01/2006

The country code and number of your priority application, to be used for filing abroad under the Paris

Convention, is **US10/567,009**

**Projected Publication Date:** 11/09/2006

**Non-Publication Request:** No

**Early Publication Request:** No

**Title**

Piperazine derivatives and their use as therapeutic agents

**Preliminary Class**

544

## **PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

---

**LICENSE FOR FOREIGN FILING UNDER**  
**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

#### **NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

(19) World Intellectual Property  
Organization  
International Bureau



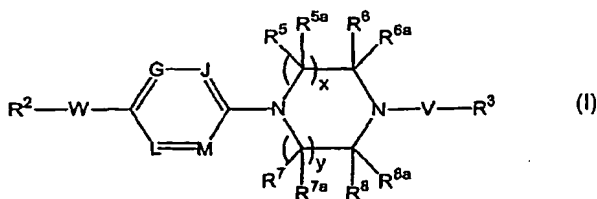
(43) International Publication Date  
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number  
**WO 2005/011657 A3**

- (51) International Patent Classification<sup>7</sup>: **C07D 239/42**, 241/26, A61K 31/497, 31/506, A61P 3/06
- (21) International Application Number: **PCT/US2004/024658**
- (22) International Filing Date: **29 July 2004 (29.07.2004)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:  
**60/491,095** **30 July 2003 (30.07.2003)** **US**
- (71) Applicant (for all designated States except US): **XENON PHARMACEUTICALS INC.** [CA/CA]; 3650 Gilmore Way, Burnaby, British Columbia V5G 4W8 (CA).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **SVIRIDOV, Serguei** [CA/CA]; 1904-5885 Olive Avenue, Burnaby, British Columbia V5H 4N8 (CA). **KODUMURU, Vishnumurthy** [CA/CA]; 211-6577 Royal Oak Avenue, Burnaby, British Columbia V5H 3P3 (CA). **LIU, Shifeng** [CA/CA]; 15-2615 Fortress Drive, Port Coquitlam, British Columbia V3C 6E8 (CA). **ABREO, Melwyn** [US/US]; 3373 Armagosa Way, Jamul, California 91932 (US). **WINTHER, Michael D.** [CA/CA]; 1935 West 4th Avenue, Vancouver, British Columbia V6J 2K1 (CA). **GSCHWEND, Heinz W.** [US/US]; 161 Meadowcroft Way, Santa Rosa, California 95403 (US). **KAMBOJ, Rajender** [CA/CA]; 5809 Sperling Avenue, Burnaby, British Columbia V5E 2T6 (CA). **SUN, Shaoyi** [CA/CA]; #407-1029 East Broadway, Vancouver, British Columbia V5T 1Y8 (CA). **HOLLADAY, Mark, W.** [US/US]; 11371 Woodcraft Way, San Diego, California 92131 (US). **LI, Wenbao** [CN/US]; 11674 Castile Way, San Diego, California 92128 (US). **TU, Chi** [US/US]; 5269 Quaker Hill Lane, San Diego, California 92130 (US).
- (74) Agents: **ROTH, Carol, J. et al.**; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, Washington 98104-7092 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Declaration under Rule 4.17:**  
— of inventorship (Rule 4.17(iv)) for US only
- Published:**  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:  
**24 March 2005**
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **PIPERAZINE DERIVATIVES AND THEIR USE AS THERAPEUTIC AGENTS**



(57) Abstract: Methods of treating an SCD-mediated disease or condition in a mammal, preferably a human, are disclosed, wherein the methods comprise administering to a mammal in need thereof a compound of formula (I): where G, J, L, M, x, y, W, V, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9a</sup>, R<sup>9</sup>, R<sup>10a</sup>, R<sup>10</sup>, R<sup>11a</sup>, R<sup>11</sup> and R<sup>12a</sup> are defined herein. Pharmaceutical compositions comprising the compounds of formula (I) are also disclosed.

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Vishnumurthy  
Family Name:: Kodumuru  
City of Residence:: Burnaby  
Country of Residence:: Canada  
Street of mailing address:: 211-6577 Royal Oak Avenue  
City of mailing address:: Burnaby  
State or Province of mailing address:: BC  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address:: V5H 3P3

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Shifeng  
Family Name:: Liu  
City of Residence:: Port Coquitlam  
Country of Residence:: Canada  
Street of mailing address:: 15-2615 Fortress Drive  
City of mailing address:: Port Coquitlam  
State or Province of mailing address:: BC  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address:: V3C 6E8

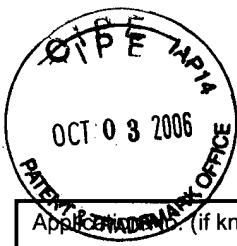
Applicant Authority Type:: Inventor  
Primary Citizenship Country:: US  
Status:: Full Capacity  
Given Name:: Melwyn  
Family Name:: Abreo  
City of Residence:: Jamul



State or Province of Residence:: CA  
Country of Residence:: US  
Street of mailing address:: 3373 Armagosa Way  
City of mailing address:: Jamul  
State or Province of mailing address:: CA  
Postal or Zip Code of mailing address:: 91932

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: Canada  
Status:: Full Capacity  
Given Name:: Michael  
Middle Name:: D.  
Family Name:: Winther  
City of Residence:: Vancouver  
Country of Residence:: Canada  
Street of mailing address:: 1935 West 4th Avenue  
City of mailing address:: Vancouver  
State or Province of mailing address:: BC  
Country of mailing address:: Canada  
Postal or Zip Code of mailing address:: V6J 2K1

Applicant Authority Type:: Inventor  
Primary Citizenship Country:: US  
Status:: Full Capacity  
Given Name:: Heinz  
Middle Name:: W.  
Family Name:: Gschwend  
City of Residence:: Santa Rosa  
State or Province of Residence:: CA  
Country of Residence:: US  
Street of mailing address:: 161 Meadowcroft Way  
City of mailing address:: Santa Rosa



Application No.: (if known): 10/567,009

Attorney Docket No.: 17243/006001

## Certificate of Express Mailing Under 37 CFR 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail, Airbill No. EV804212342US in an envelope addressed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

on October 3, 2006  
Date

  
Signature

Salena L. Hearne

Typed or printed name of person signing Certificate

Registration Number, if applicable

(713) 228-8600  
Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

Request for Corrected Filing Receipt with attachments (8 pages)  
Transmittal (1 page)  
Return Receipt Postcard